

University of Nebraska - Lincoln

**DigitalCommons@University of Nebraska - Lincoln**

---

UCARE Research Products

UCARE: Undergraduate Creative Activities &  
Research Experiences

---

Spring 4-12-2016

# Daniel Libeskind's Three Lessons in Architecture

Charles T. Weak

*University of Nebraska-Lincoln*, [charlesweak@ymail.com](mailto:charlesweak@ymail.com)

Follow this and additional works at: <http://digitalcommons.unl.edu/ucareresearch>



Part of the [Other Architecture Commons](#)

---

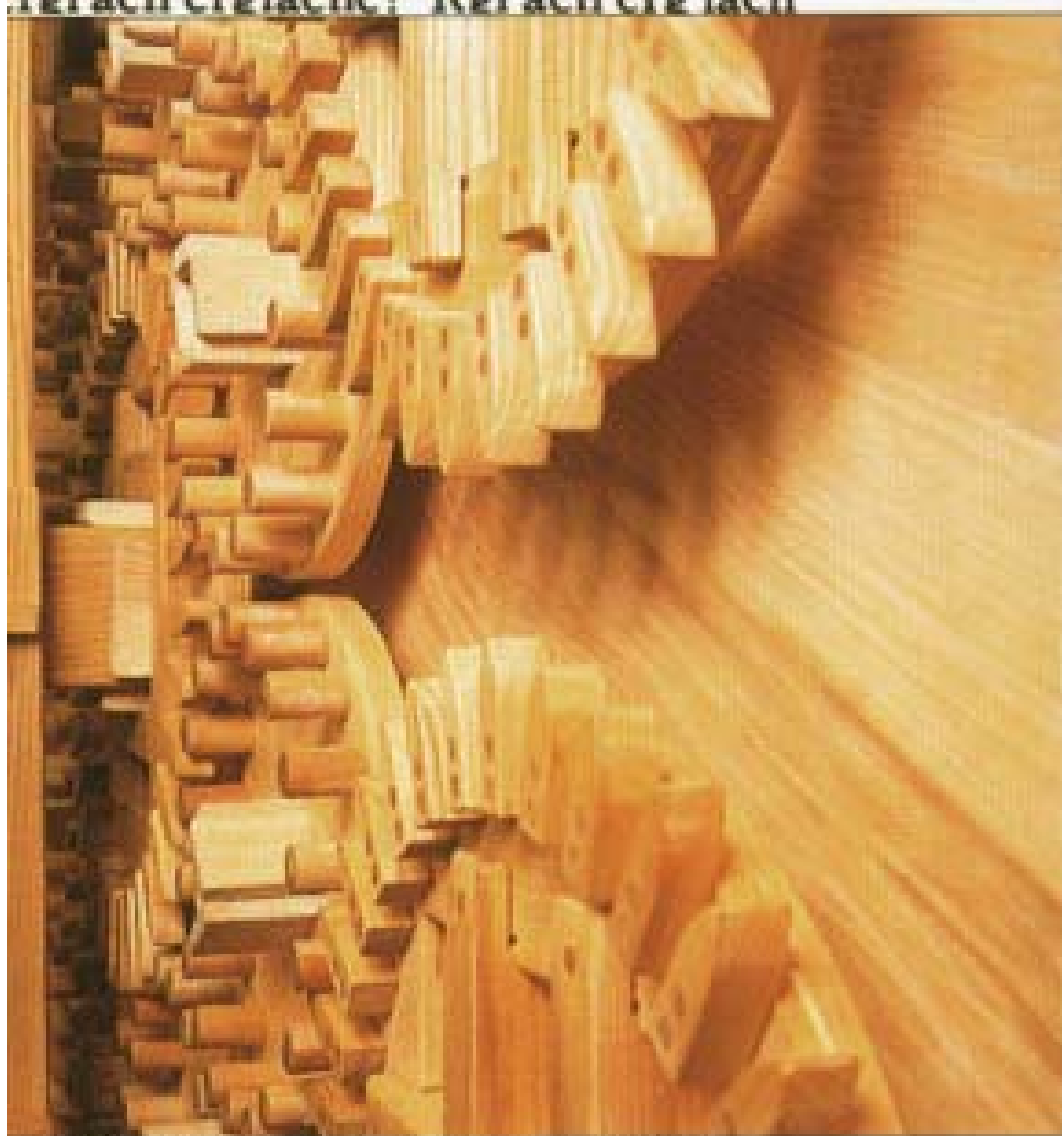
Weak, Charles T., "Daniel Libeskind's Three Lessons in Architecture" (2016). *UCARE Research Products*. 33.  
<http://digitalcommons.unl.edu/ucareresearch/33>

This Poster is brought to you for free and open access by the UCARE: Undergraduate Creative Activities & Research Experiences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in UCARE Research Products by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



## 01 DOCUMENTATION

*Gia.* Ener Giae nergia, energia en erg iae,  
erg i aen ergiaene? Rgi aen erg i aen

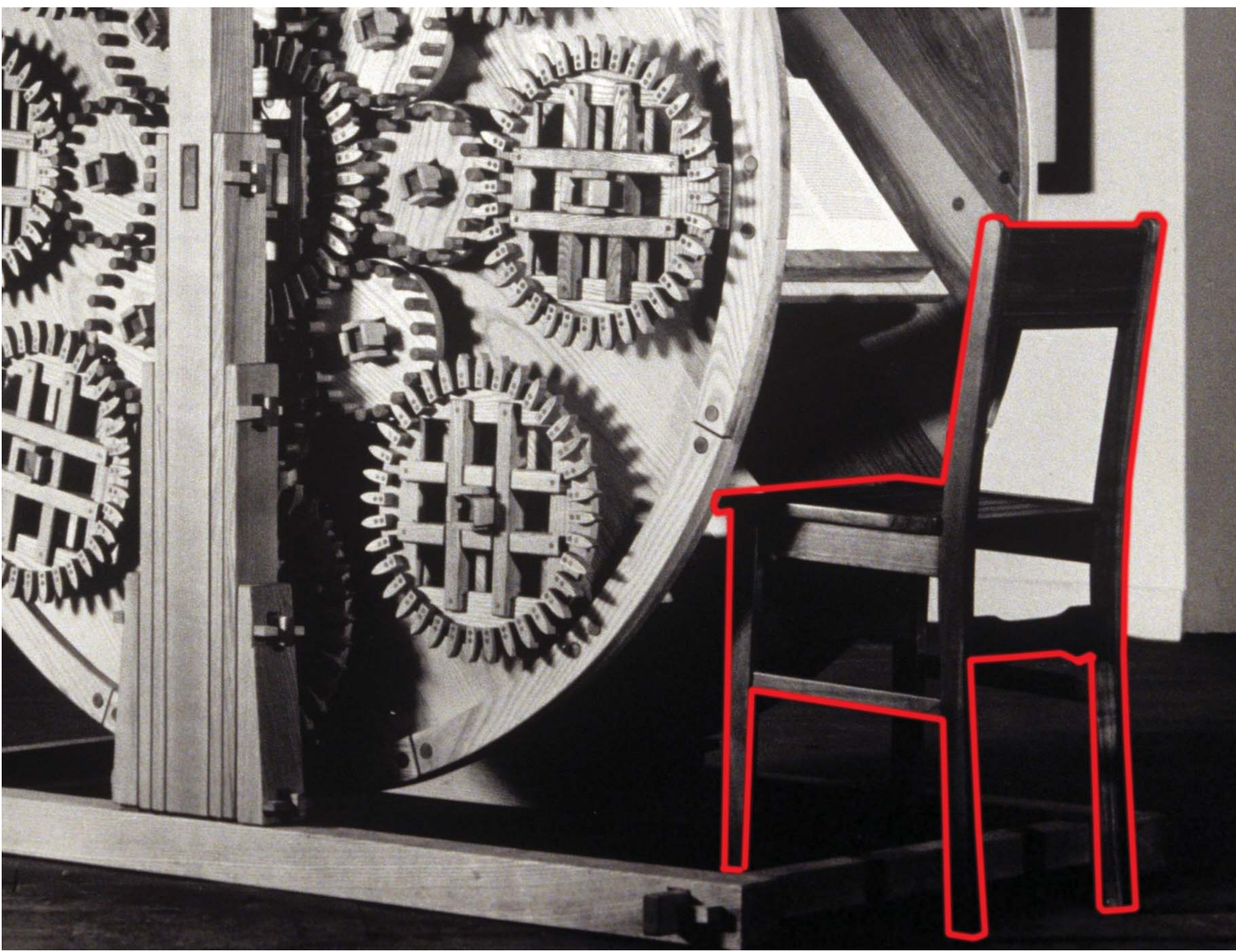


ae nergia ene rgiaenergi aenerg.  
e ner gia ene; rgia energ l'ae rgiae  
rg i aenerg iae n ergia ene;  
giae nergiaen ergi ae nergiae ner giae.

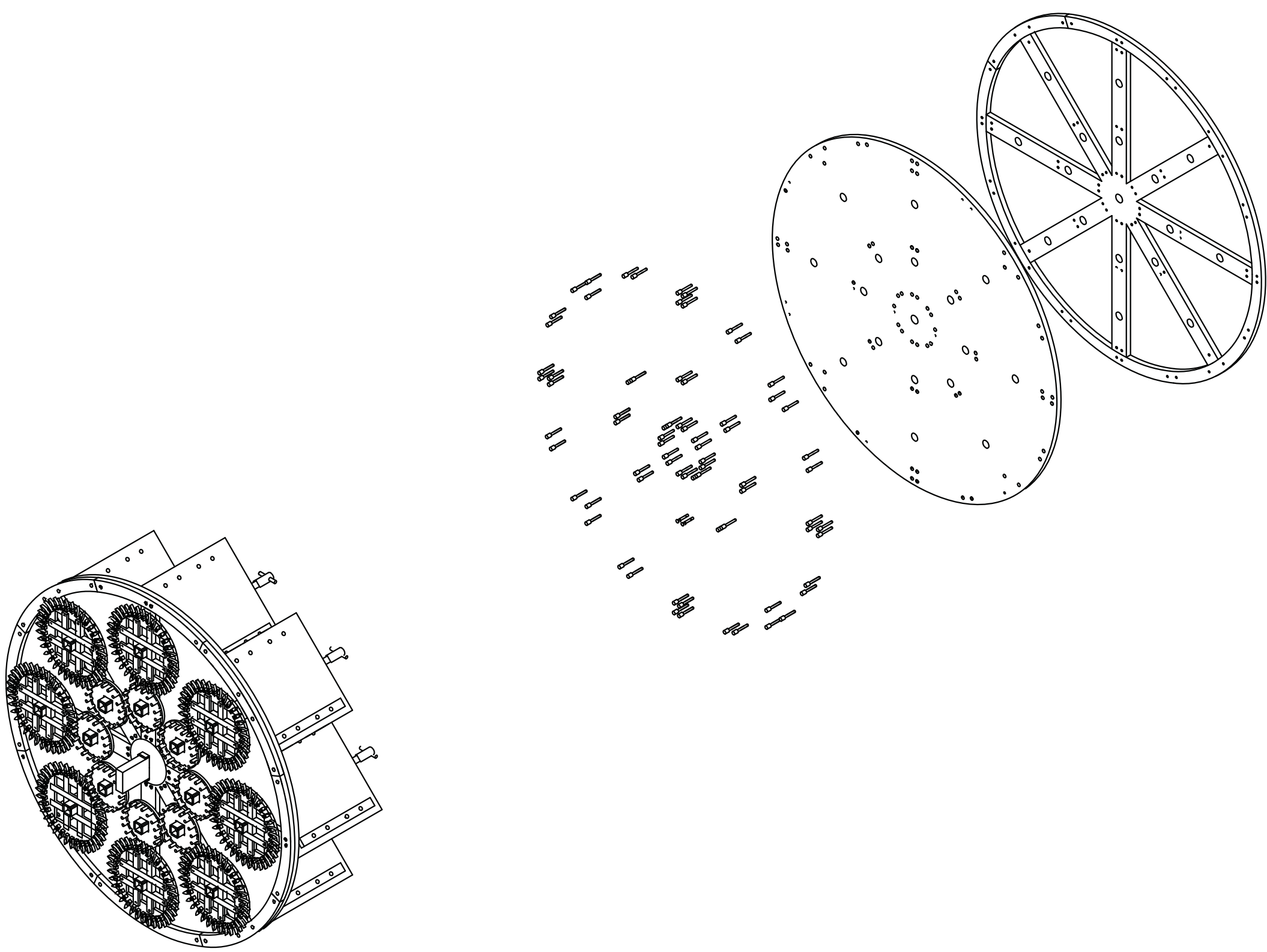


*Einge Rea. T.* Edb eingre atedbe ei nge reat edb ei ng create db eing reatedb ein gcre atedbeinge re ate db ei, ngerrea, ted beingcrea ted bei nger; ear ed being create db eing crea te db eing re ate db ei. Ngcre atedbe ing create db ein gcre ate db ei.

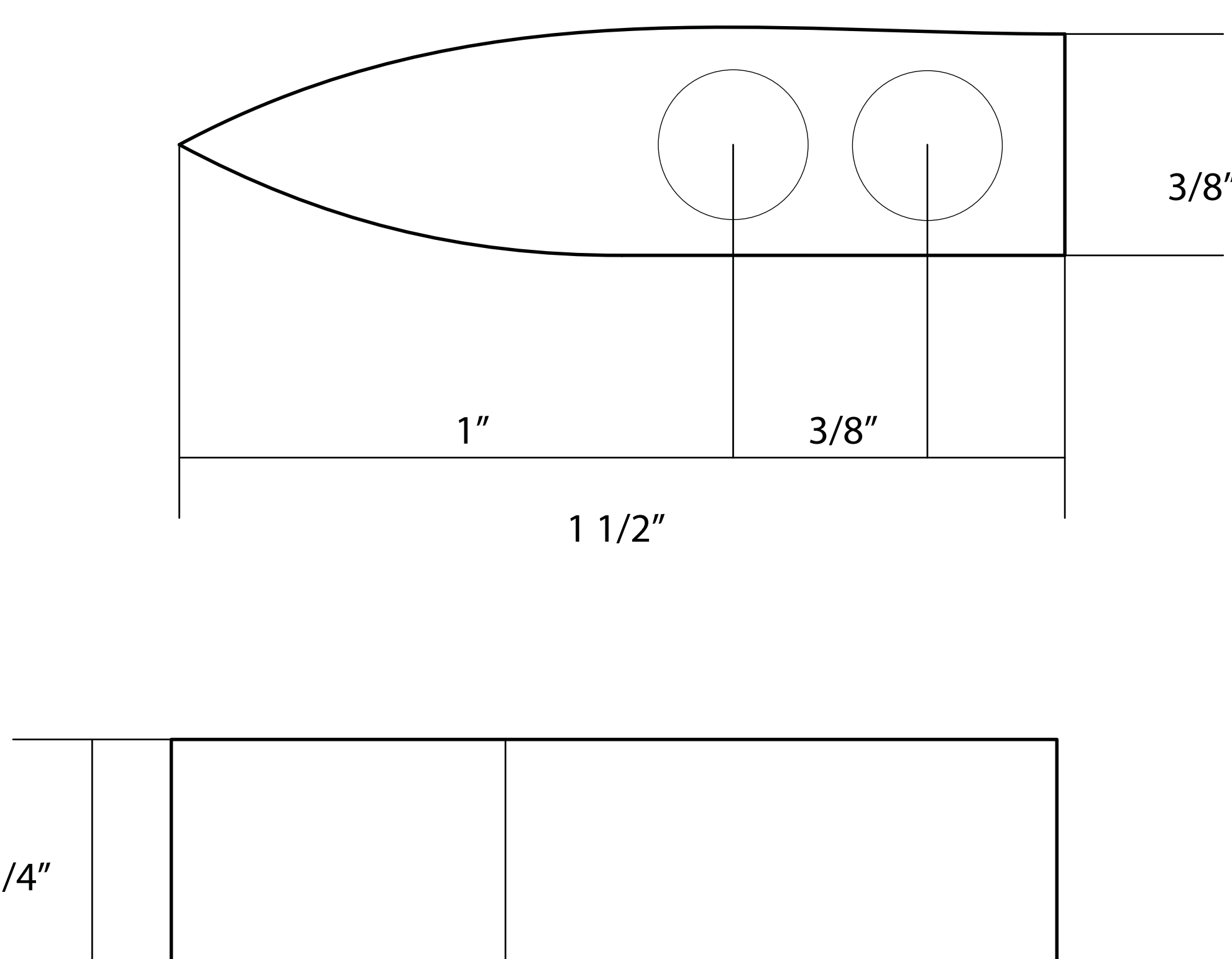
## 02 CROSS REFERENCE



## 03 SCALE



## 04 DIMENSIONING



## 00 HISTORICAL RECONSTRUCTION

01 Student: **CHARLES WEAK**  
02 Faculty Advisor: **PETER OLSHAVSKY**

## 00BRIEF

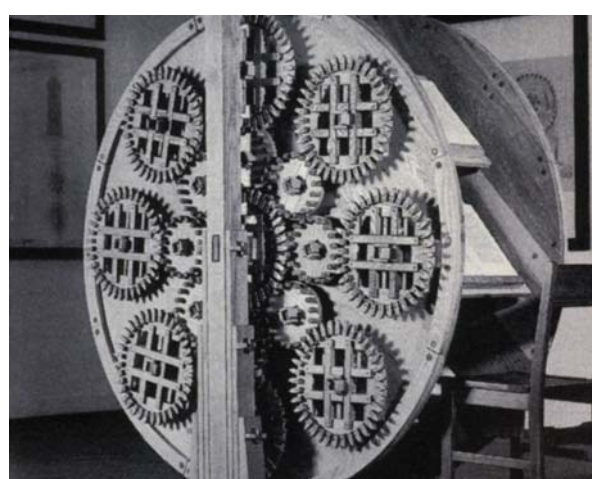
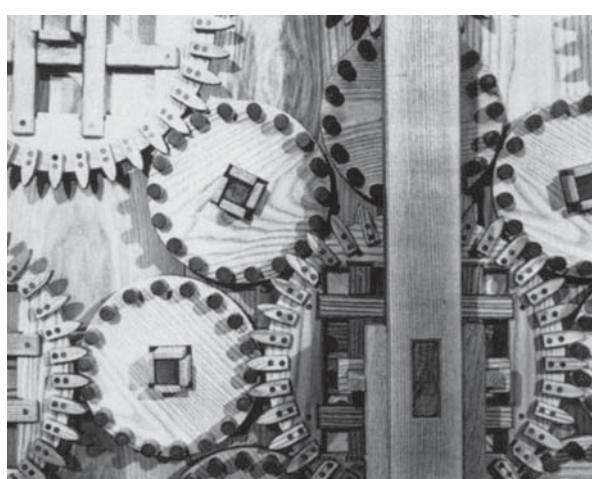
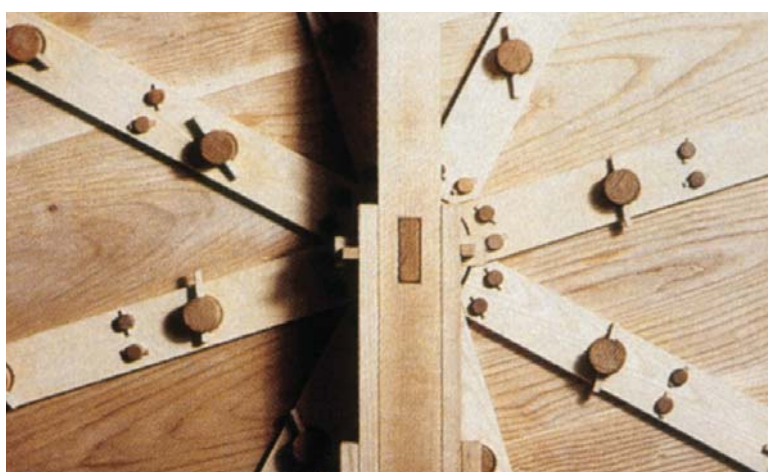
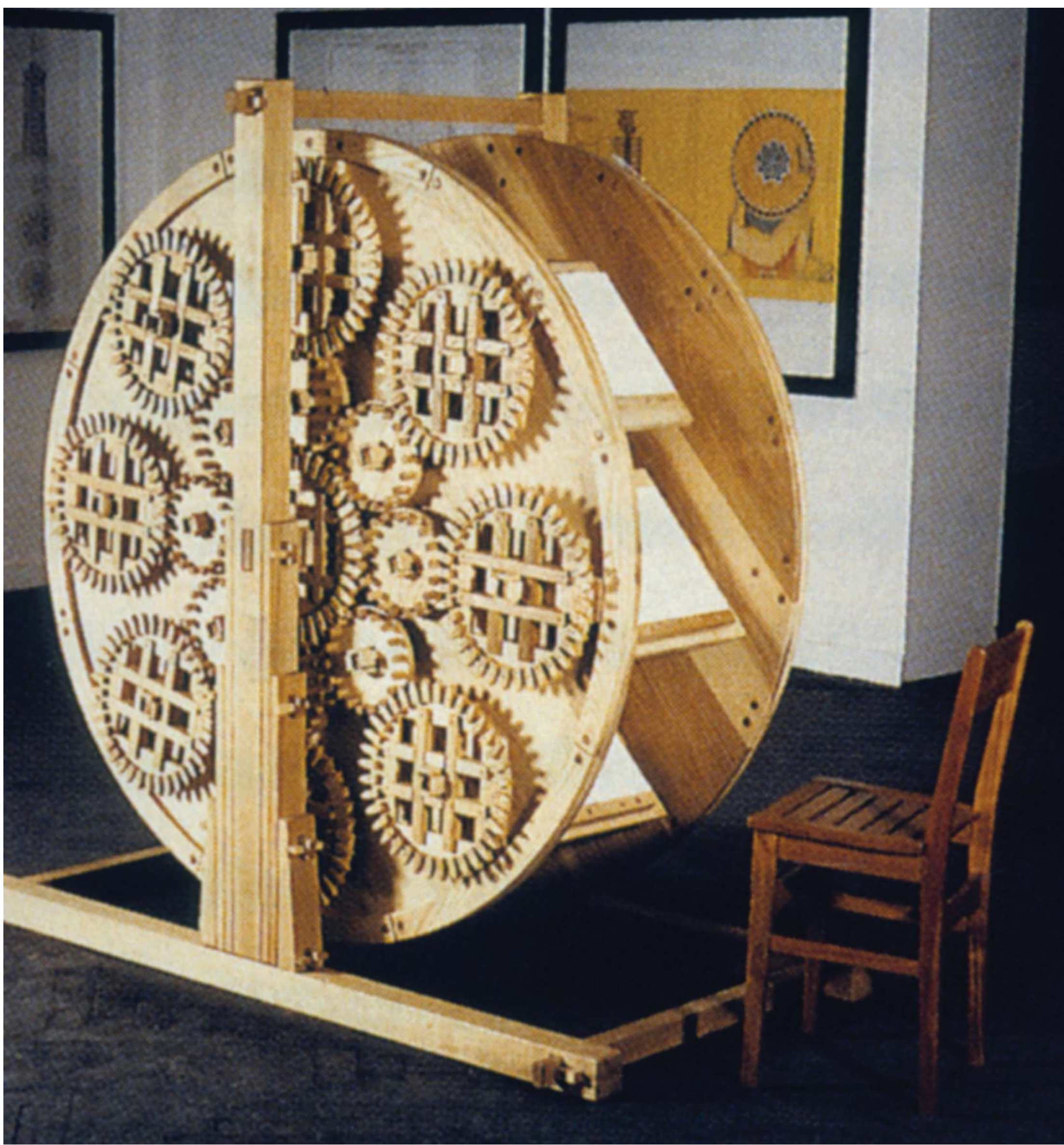
IN 1985, STUDENT'S AT CRANBROOK UNIVERSITY CREATED THREE ARCHITECTURAL MACHINES FOR THE VENICE BIENNALE. THE THREE MACHINES WERE LOST IN A FIRE IN VENICE. THE ONLY REMNANTS OF THE MACHINES THAT ARE LEFT ARE PICTURES FROM THE BIENNALE. THIS PROJECT FOCUSED ON THE READING MACHINE, ONE OF THE THREE MACHINES THAT WAS DESTROYED. IN AN ATTEMPT TO BETTER UNDERSTAND THESE MACHINES AND THEIR ROLE IN ARCHITECTURAL DISCOURSE, WE SET OUT TO SEE WHAT WE COULD LEARN FROM RECONSTRUCTING THESE MACHINES.

## 00DESCRIPTION

THIS PROJECT WAS INITIALLY LESS ABOUT THE SUBJECT MATTER, AND MORE ABOUT EXPLORING THE POTENTIAL FOR RECONSTRUCTING A LOST ARTIFACT TO SEE WHAT NEW INFORMATION CAN BE UNCOVERED THROUGH IT'S RECONSTRUCTION. SOFTWARE WAS EMPLOYED TO QUICKLY WORK THROUGH MODEL ITERATIONSTOCREATEAMODELTHATWASACCURATELY PROPORTIONED TO IT'S PIECES. I WAS ABLE TO FIND PICTURES THAT WERE SHOT IN AN ELEVATIONAL STYLE, WHICH BECAME THE MOST HELPFUL WHEN TRYING TO DIMESION THE READING MACHINE.

## 00TECHNIQUES

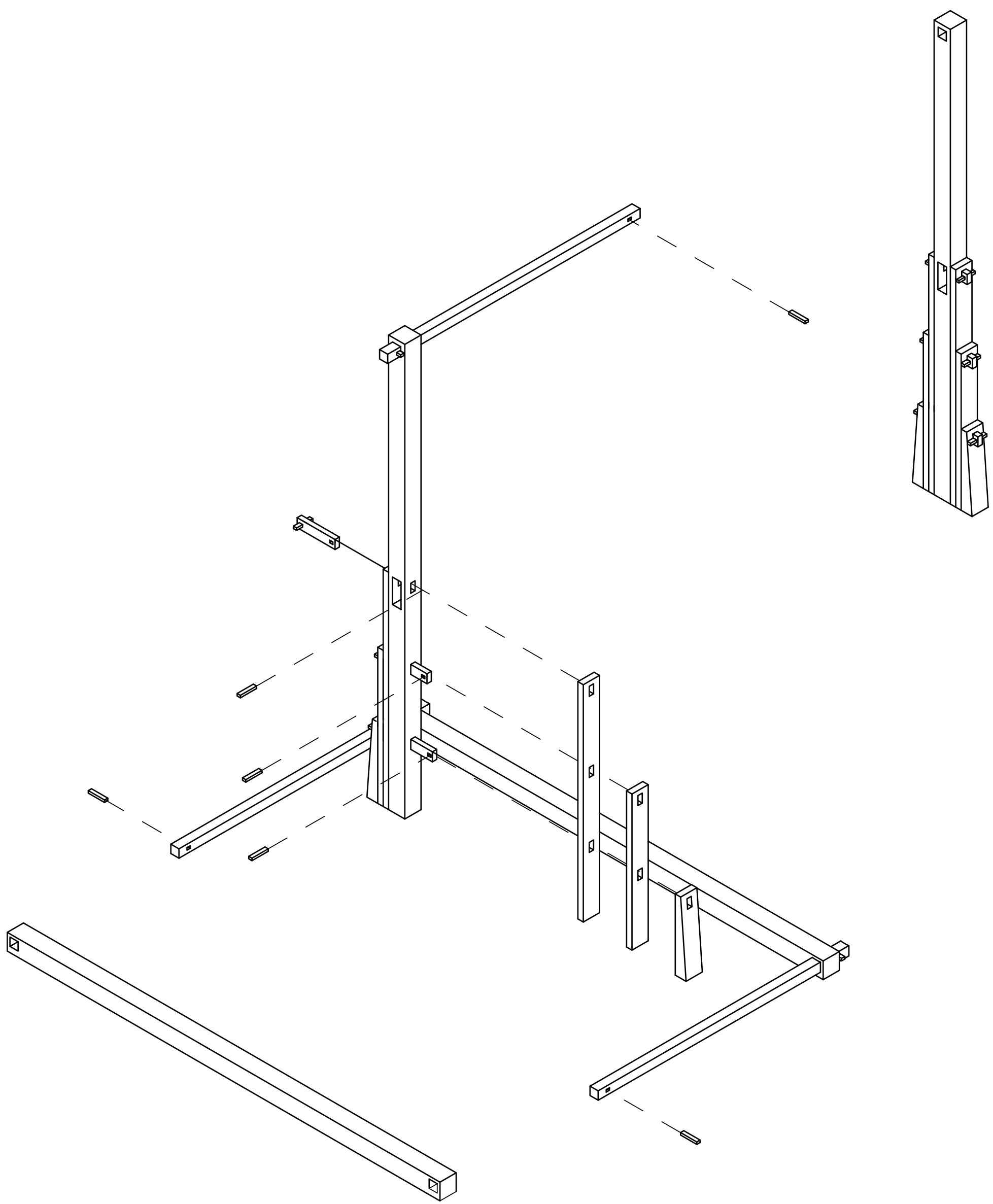
THE TECHNIQUES USED TO RECREATE THE READING MACHINE ARE DISCUSSED IN GREATER DEPTH IN THE INDIVIDUAL DESCRIPTIONS BELOW. THE PROCESS OF RECONSTRUCTION WITHOUT CONSTRUCTION DOCUMENTS OR ACCURATE RECORDS IS AN IMPERFECT PROCESS, BUT ULTIMATELY WAS A FRUITFUL ONE. THE INFORMATION DISCOVERED HELPED INFORM US ON THE METHOD FOR THE CONSTRUCTION OF THE READING MACHINE.



This technical drawing illustrates a complex mechanical assembly, possibly a large-scale rotating drum or mill. The central component is a large, circular drum with a thick, reinforced rim. Inside the drum, there are several large, circular internal components, each featuring a series of sharp, pointed teeth or blades arranged radially. These internal components are mounted on a central vertical shaft. The entire assembly is supported by a robust, rectangular frame made of heavy-duty beams. The drawing is a detailed line art representation, showing various bolts, flanges, and structural reinforcements, indicating a high-pressure or high-torque application.

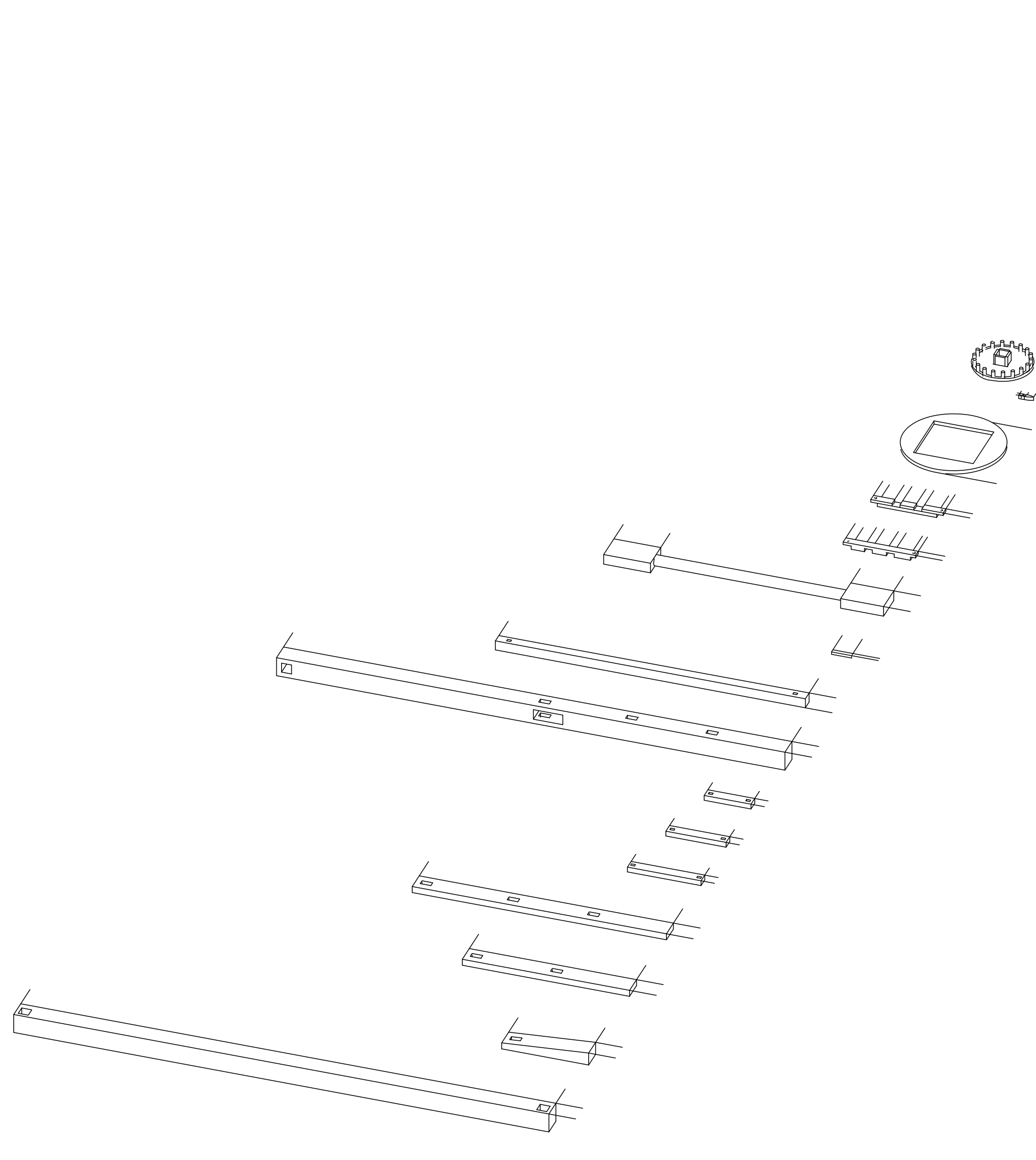
## 02 CROSS REFERENCE:

The first step in digitally reconstructing the Reading Machine was to build a strong documentation base to pull information from. Having a view of all the parts of the machine was crucial to building and understanding on how to begin to recreate it. Once I understood what a majority of the pieces of the machine were I was able to begin creating ratio systems to understand the proportions of the pieces of the Reading Machine in relationship to the size of one of the base members. It took multiple iterations of models to find the correct proportioning system.



### 03 SCALAR SYSTEMS:

I was fortunate to be able to find a picture of the Reading Machine with a chair in relationship to it. Chairs have a typical width and height dimension that gave me a range of possible dimensions for space between the two large wheels. Chairs have an average width of 24" to 18", which provided me with a base for which I could begin to dimension the overall width of the machine. The final model of the Reading Machine is thought to be accurate to a hundredth of an inch.



## 04 INFORMATION GATHERED:

The information I uncovered about the Reading Machine has informed me about the construction process, and the proportioning systems of the machine. From the digital model, I pulled the pieces apart to get a list of parts and pieces that moves the research forward. All the pieces of the Reading Machine have a side or two sides with a dimension that is either,  $3/4"$ ,  $1\ 1/2"$ , or  $2\ 1/4"$ . It's likely that this means that Reading Machine was constructed with dimensioned lumber, with the  $2\ 1/4"$  pieces being ripped down from  $2\ 1/2"$  pieces. This also suggests that proportion played a big role in the construction of the Reading Machine. Understanding the construction process is important to reconstructing a physical model of the machines, as well as understanding the theory behind the creation of the machines.